U.S. GOVERNMENT LINKS

Water Quality Information Center
http://www.nal.usda.gov/wqic/

Water Resources of the United States
http://water.usgs.gov/

Office of Water, EPA
http://www.epa.gov/OW/

Great Lakes Environment
http://www.epa.gov/glnpo/

National Water and Climate Data Center
http://www.wcc.nrcs.usda.gov/

Office of Wetlands, Oceans, and Watersheds, EPA
http://www.epa.gov/owow/

U.S. Department of the Interior, Bureau of Reclamation
http://www.usbr.gov/

Dataweb: Dams, Projects and Powerplants
http://www.usbr.gov/dataweb/

NWISWeb Water Data for the Nation
http://waterdata.usgs.gov/nwis/

USGS Ground Water Information Pages
http://water.usgs.gov/ogw/

Links to States
http://www.usa.gov/Agencies/State_and_Territories.shtml

LATEST REPORTS

New Report: Across America, Waters in Crisis

Source: Natural Resources Defense Council, Clean Water Action, Earthjustice, Environment America, National Wildlife Federation, Sierra Club, and Southern Environmental Law Center

For decades, the Clean Water Act has broadly protected America's lakes, rivers, streams, and drinking water sources from unregulated pollution and destruction, rescuing them from the dire straits they were in during the late 1960s and early 1970s. But because of a concerted effort by polluters and developers, and muddied rulings from the U.S. Supreme Court, up to 60 percent (at least 15,000 important waters) have lost these vital protections and countless other waters (including more than 50 percent of our streams and 20 million acres of wetlands) are at risk of losing protections.

Today, Natural Resources Defense Council, Clean Water Action, Earthjustice, Environment America, National Wildlife Federation, Sierra Club, and Southern Environmental Law Center are releasing a new report entitled "Courting Disaster: How the Supreme Court Has Broken the Clean Water Act and Why Congress Must Fix It," which details the threats to America's waters and highlights the urgent need for Congress to act immediately and restore full Clean Water Act protections to our waters.

+ Full Report (PDF; 2.1 MB)
http://www.americanrivers.org/our-work/protecting-rivers/endangered-rivers/

America's Most Endangered Rivers™: 2009 Edition

Source: American Rivers
From press release:

From outdated flood control schemes to harmful dams and mining projects, our nation's rivers and clean water are at risk. American Rivers, the nation's leading river conservation organization, today released America's Most Endangered Rivers: 2009 edition spotlighting ten rivers in need of urgent action.
…
This year's report highlights the sorry state of the nation's water infrastructure — our drinking water, wastewater and stormwater systems, and our dams and levees – and the need for green, 21st century investments to protect clean water, public health and safety, and the fish and wildlife that depend on healthy rivers.

Rivers in Alaska, California, Georgia, Idaho, Maryland, Minnesota, Mississippi, Montana, Oregon, Pennsylvania, South Carolina, Washington and Wisconsin are on the list this year.

http://www.americanrivers.org/our-work/protecting-rivers/endangered-rivers/

The 3rd United Nations World Water Development Report: Water in a Changing World (WWDR-3)
Source: UNESCO Natural Sciences
From UN Pulse annotation:

This publication is the result of the collaboration between 26 UN agencies and entities. It provides a comprehensive analysis of the state of the world's freshwater resources and stress the need of urgent actions in order to avoid a global water crisis. The report also emphasizes the decisions made outside the water sector which are affecting water management.

Download in sections (PDFs) or as full report (PDF; 29.8 MB).
http://webworld.unesco.org/water/wwap/wwdr/wwdr3/pdf/WWDR3_Water_in_a_Changing_World.pdf

Reclamation Releases Draft EA/FONSI for 2009 Drought Water Bank for Public Review and Comment
Source: U.S. Bureau of Reclamation

The Bureau of Reclamation has released a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the 2009 Drought Water Bank (Bank) for a 15-day public review. California is in its third critically dry year, and Reclamation's deliveries for all water uses - urban, agricultural, and environmental - are reduced for Water Year 2009; therefore, it is likely that some California water providers will need to supplement their supplies with water transfers from willing sellers. To help facilitate water transfers, the California Department of Water Resources (DWR) is proposing to initiate a 2009 Bank. DWR would purchase water from willing sellers upstream of the Sacramento-San Joaquin Delta, and the water would be transferred to buyers using State Water Project (SWP) or Central Valley Project (CVP) facilities. Reclamation approval of the proposed transfer of CVP water would be a Federal action which is subject to requirements of the National Environmental Policy Act (NEPA), requiring the development of an EA.

Safe Drinking Water Needs Assessed
Source: U.S. Environmental Protection Agency

A recent drinking water needs survey will help EPA determine the distribution formula for Drinking Water State Revolving Fund (DWSRF) grants for the fiscal years 2010 through 2013 budgets. The assessment documents anticipated costs for repairs and replacement of transmission and distribution pipes, storage and treatment equipment, and projects that are necessary to deliver safe supplies of drinking water.

The Drinking Water Infrastructure Needs Survey and Assessment, which is done every four years, reflects data collected in 2007 from states. According to the survey results, the nation's water utilities will need to invest an estimated $334.8 billion over the next 20 years to deal with aging infrastructure.

Results from the assessment are used to develop a formula to distribute the agency's annual DWSRF grants. The Safe Drinking Water Act established the DWSRF to help states provide grants to drinking water systems to finance infrastructure improvements. Since the DWSRF

program began in 1997, states have provided more than $15 billion in funding to utilities for infrastructure projects.

+ Drinking Water Infrastructure Needs Survey and Assessment

Federal Government Should Give Greater Support to Decision Makers Coping With Climate Change

Federal Government Should Give Greater Support to Decision Makers Coping With Climate Change
Source: National Research Council

Many state and local officials and private organizations are basing decisions — such as how to build bridges or manage water supplies — on the assumption that current climate conditions will continue, but that assumption is no longer valid. To produce the climate information these decision makers need and to deliver it to them effectively, federal agencies such as the National Oceanic and Atmospheric Administration and the Environmental Protection Agency should expand their activities in these areas, says a new report from the National Research Council.

The report recommends six principles that all agencies should follow in supporting decision makers who are facing the effects of climate change. For example, agencies' efforts should be driven by the needs of end users in the field, not by scientific research priorities. And agencies should create close ties between the scientists who produce climate change information and the practitioners who use it.

The committee that wrote the report also urged an expansion of federal research to generate the information regional and local decision makers need — for example, studies on which locations are vulnerable to the effects of climate change and on ways to mitigate or adapt to these effects. Studies should also assess the best ways to collect and disseminate such information.

In addition, the report calls for a new federal initiative to identify and serve decision makers, such as county planners, who may not already be served by particular agencies. This new initiative should not be centralized in a single agency; instead, it should involve and coordinate all agencies that either serve constituencies affected by climate change or collect the information that these decision makers need. This broad initiative will need strong leadership from the Executive Office of the President, including the president's science adviser and the new coordinator of energy and climate policy.

Read report for free online.

New report highlights importance of water in the "energy equation"
Source: World Economic Forum

The World Economic Forum's Energy Community today launched the Thirsty Energy – Water and Energy in the 21st Century report. The report explores the risks and opportunities inherent in the ancient relationship between energy and water, which has taken on a new urgency as competition for finite freshwater resources rises. Produced in partnership with Cambridge Energy

Research Associates (CERA), the report includes perspectives from prominent experts and decision-makers.

Water is critical to energy production, yet the water/energy nexus is often overlooked. “The importance of bringing water into the energy equation now cannot be underestimated as we are heading for a more water-scarce future,” said Christoph Frei, Senior Director and Head of Energy Industry at the World Economic Forum. “Optimizing future energy choices is becoming a ‘trilemma’ as water implications need to be considered alongside energy security and climate change impacts,” he added.

+ Full Report (PDF; 2.8 MB)

Managing water resources in a changing climate
Source: U.S. Army Corps of Engineers/USGS

A study to help better manage and preserve the nation’s water resources in a changing climate is now available in a report compiled by multiple government agencies.

Water managers can use this report to support their efforts to provide water to communities and farms, generate power for cities, sustain ecological systems, or protect lives and homes from floods – all critical to the public’s health, safety, and quality of life.

This study presents the best available science to help water managers prepare for, adapt to, and mitigate the effects of climate change on the nation’s water resources. The U.S. Geological Survey and the National Oceanic and Atmospheric Administration came together with the nation’s principal water management agencies, the U.S. Army Corps of Engineers and the Bureau of Reclamation, to explore strategies to improve water management by suggesting processes to improve tracking, anticipation, and response to climate change effects.

+ Climate Change and Water Resources Management: A Federal Perspective

Impacts of Europe’s Changing Climate

From the EEA Web Site:

Global climate change is a reality. In Europe the most vulnerable regions are the Arctic, mountain areas, coastal zones and the Mediterranean. Key economic sectors, which will need to adapt include energy supply, health, water management, agriculture, forestry, tourism and transport.

Direct to Complete Brief (6 pages; PDF)

Source: European Environment Agency

Agencies Revise Guidance to Protect Wetlands and Streams
Source: U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) and the Department of the Army are issuing revised guidance to ensure America's wetlands, streams and other waters are better protected under the Clean Water Act (CWA). The guidance clarifies the geographic scope of jurisdiction under the CWA.
…
The revised guidance replaces previous policy issued in June 2007 and clarifies a June 2006 Supreme Court decision in Rapanos v. United States regarding the scope of the agencies' jurisdiction under the CWA. The guidance follows the agencies' evaluation of more than 18,000 jurisdictional determinations and review of more than 66,000 comments.

+ Clean Water Act Definition of "Waters of the United States"

Abrupt Climate Change: Will It Happen this Century?

From the news release:

The United States faces the potential for abrupt climate change in the 21st century that could pose clear risks to society in terms of our ability to adapt.

"Abrupt" changes can occur over decades or less, persist for decades more, and cause substantial disruptions to human and natural systems.

A new report, based on an assessment of published science literature, makes the following conclusions about the potential for abrupt climate changes from global warming during this century.

* Climate model simulations and observations suggest that rapid and sustained September arctic sea ice loss is likely in the 21st century.
* The southwestern United States may be beginning an abrupt period of increased drought.
* It is very likely that the northward flow of warm water in the upper layers of the Atlantic Ocean, which has an important impact on the global climate system, will decrease by approximately 25-30 percent. However, it is very unlikely that this circulation will collapse or that the weakening will occur abruptly during the 21st century and beyond.
* An abrupt change in sea level is possible, but predictions are highly uncertain due to shortcomings in existing climate models.
* There is unlikely to be an abrupt release of methane, a powerful greenhouse gas, to the atmosphere from deposits in the earth. However, it is very likely that the pace of methane emissions will increase.

The U.S. Geological Survey led the new assessment, which was authored by a team of climate scientists from the federal government and academia. The report was commissioned by the U.S. Climate Change Science Program with contributions from the National Oceanic and Atmospheric Administration and the National Science Foundation.

Direct to Full Text Report: Final Report of Synthesis and Assessment Product 3.4

National Coastal Condition Report III - NCCR III

From a news release:

The overall condition of the nation's coastal waters has improved slightly, based on a recently released environmental assessment. The National Coastal Condition Report III (NCCRIII) is the third in a series of environmental assessments of U.S. coastal and Great Lakes waters.

The report, a collaboration of the U.S. Environmental Protection Agency (EPA); the National Oceanic and Atmospheric Administration (NOAA); the U.S. Geological Survey (USGS); the U.S. Fish and Wildlife Service; coastal states; and the National Estuary Program, assessed America's coastal conditions using five indicators of condition: water quality, sediment quality, benthic community condition (the health of the water's bottom-dwelling invertebrate species), coastal habitat loss as indicated by changes in wetland area, and fish tissue contaminants.

The overall condition of America's coasts is rated as "fair," based on these five indicators. Comparison of the condition scores shows that overall condition in U.S. coastal waters has improved slightly since the 1990s. Coastal conditions improved in the Northeast and the West, but there were slight decreases in conditions in the Southeast and Gulf of Mexico. The conditions in the Great Lakes and Puerto Rico remained the same.

The next National Coastal Condition Report is expected to be released in 2011 and will provide an assessment of the status of U.S. coastal waters from 2003 to 2006, along with trends in condition since the 1990s.

Direct to Full Text ||| Direct to Factsheet ||| Review Older Reports

New Online Report on Massive Jellyfish Swarms Released
Source: National Science Foundation

Massive swarms of stinging jellyfish and jellyfish-like animals are transforming many world-class fisheries and tourist destinations into veritable jellytoriums that are intermittently jammed with pulsating, gelatinous creatures. Areas that are currently particularly hard-hit by these squishy animals include Hawaii, the Gulf of Mexico, the east coast of the U.S., the Bering Sea, the Mediterranean Sea, Australia, the Black Sea and other European seas, the Sea of Japan, the North Sea and Namibia.

Massive jellyfish swarms–some of which cover hundreds of square miles–have caused injuries and even occasional deaths to water enthusiasts, and have caused serious damage to fisheries, fish farms, marine mines, desalination plants, ships and nuclear power plants. Since the 1980s, jellyfish swarms have cost the world's fishing and tourism industries alone hundreds of millions of dollars and perhaps even billions of dollars.

+ Jellyfish Gone Wild: Environmental Change and Jellyfish Swarms

DOI Climate Change Task Force Draft Subcommittee Reports

DOI Climate Change Task Force Draft Subcommittee Reports
Source: U.S. Department of the Interior (via USGS)

In March 2007, Secretary of the Interior Dirk Kempthorne established the DOI Climate Change Task Force, chaired by Deputy Secretary Lynn Scarlett. Three subcommittees were formed to undertake this assignment:

1. a Land & Water Management Subcommittee to identify potential issues and challenges facing the Department of the Interior (DOI) as a consequence of climate change and to suggest possible options for addressing them. The subcommittee was composed of 39 staff including economists, geologists, managers, and engineers;
2. a Law & Policy Subcommittee to identify the legal and policy issues facing the DOI and to suggest possible options for addressing them. That subcommittee had 36 staff, including diverse representation from among the career resource managers, representatives of the Solicitor's office, and personnel from the DOI policy offices; and,
3. a Science Subcommittee to identify the science and information needed to assist the DOI in addressing the consequences of climate change and to suggest possible options for getting the needed science. There were 35 staff members on that subcommittee, including not only scientists from USGS but also multiple other professions from other parts of the Department.

The three Draft DOI Climate Change Task Force subcommittee reports highlight a series of questions and issues (and options for addressing them) that may become increasingly important as a result of climate change.

+ Report of the Subcommittee on Land and Water Management (PDF; 908 KB)
+ Report of the Subcommittee on Law and Policy (PDF; 435 KB)
+ Report of the Subcommittee on Science (PDF; 367 KB)

More Variable and Uncertain Water Supply: Global Warming's Wake-Up Call for the Southeastern U.S.
Source: National Wildlife Federation

The second major drought of the last decade is a wake-up call for the Southeast United States, showing the region's vulnerability due to its reliance on scarce supplies of fresh water.

The region has been operating under the best-case water availability for the last 50 years, during which drought conditions were relatively rare. But, the region has historically experienced regular droughts. Global warming is the future wildcard, potentially causing both more extremely dry periods and more heavy rainfall events. At the same time, warming-induced sea-level rise will increase the risk of saltwater intrusion into important groundwater aquifers.

A new report from National Wildlife Federation offers the latest scientific research on global warming and water supplies, competition for resources, demographic factors, and how to better prepare for managing the region's water availability challenges.

+ Full Report (PDF; 1.2 MB)

A New Report from The Century Foundation: It Will Take More than Money to Solve the Nation's Infrastructure Crisis
Source: The Century Foundation

A political consensus has developed in the United States that significantly increased spending on the nation's aged infrastructure is necessary for America to remain prosperous. President-elect Barack Obama and the new congressional leadership have promised to push for major new investments in the nation's transportation networks, water systems, broadband capabilities, electrical grid, and other public facilities. While supporting those investments, a new report from The Century Foundation makes clear that there are serious institutional barriers to the effective use of those funds that have to be overcome if we are to put the new dollars to use wisely. In this urgent report, the former executive director of The Port Authority of New York and New Jersey, Anthony Shorris, identifies four major issues that need to be addressed to ensure that the nation gets the most bang for the vast infrastructure investments it needs to make.

+ Full Report (PDF; 268 KB)

Global Trends 2025: The National Intelligence Council's 2025 Project

Global Trends 2025: The National Intelligence Council's 2025 Project (PDF; 33.5 MB)
Source: National Intelligence Council

"Global Trends 2025: A Transformed World" is the fourth unclassified report prepared by the National Intelligence Council (NIC) in recent years that takes a long-term view of the future. It offers a fresh look at how key global trends might develop over the next 15 years to influence world events. Our report is not meant to be an exercise in prediction or crystal ball-gazing. Mindful that there are many possible "futures," we offer a range of possibilities and potential discontinuities, as a way of opening our minds to developments we might otherwise miss.

Some of our preliminary assessments are highlighted below:

- The whole international system—as constructed following WWII—will be revolutionized. Not only will new players—Brazil, Russia, India and China— have a seat at the international high table, they will bring new stakes and rules of the game.
- The unprecedented transfer of wealth roughly from West to East now under way will continue for the foreseeable future.
- Unprecedented economic growth, coupled with 1.5 billion more people, will put pressure on resources—particularly energy, food, and water—raising the specter of scarcities emerging as demand outstrips supply.
- The potential for conflict will increase owing partly to political turbulence in parts of the greater Middle East.

New Requirements for Controlling Manure, Wastewater from Large Animal Feeding Operations

Source: U.S. Environmental Protection Agency

EPA has finalized a rule helping to protect the nation's water quality by requiring concentrated animal feeding operations (CAFOs) to safely manage manure. EPA estimates CAFO regulations will prevent 56 million pounds of phosphorus, 110 million pounds of nitrogen, and 2 billion pounds of sediment from entering streams, lakes, and other waters annually.

"EPA's new regulation of animal feedlots sets a strong national standard for pollution prevention and environmental protection, while maintaining our country's economic and agricultural competitiveness," said Assistant Administrator for Water Benjamin H. Grumbles. "This clean water rule strengthens environmental safeguards by embracing a zero discharge standard and requiring site-specific management plans to prevent runoff of excess nutrients into our nation's waters."

+ Concentrated Animal Feeding Operations (CAFO) - Final Rule

Water Efficiency Can Save the Southeast Over $700 million and New Water Supply for Over One Million Residents

Source: American Rivers

The Southeast can save over $700 million and new water supply for over one million residents by embracing water efficiency solutions like stopping leaks and upgrading old buildings. That's according to the new report, Hidden Reservoir: Why Water Efficiency is the Best Solution for the Southeast by American Rivers, the nation's leading river conservation organization. The report outlines nine proven, timely and cost-effective steps that local leaders can take to save water and help ensure their rivers remain valuable community assets.

+ Full Report (PDF; 450 KB)

New "Dead Zone" Report Calls for Greater Protection of Wetlands and Streams

Source: Natural Resources Defense Council

Each summer, enormous quantities of nitrogen and phosphorus flow down the Mississippi River into the Gulf of Mexico. These pollutants contribute to the formation of a "dead zone" in the Gulf, an area where the bottom layer of water is so oxygen-depleted that most aquatic life cannot survive. Typically, the Gulf "dead zone" stretches west from where the Mississippi River enters the Gulf towards Texas, making it the largest in the U.S. and the second largest in the world. In 2007, it grew, covering an area roughly the size of New Jersey.

According to the report, "Missing Protection: Polluting the Mississippi River Basin's Small Streams and Wetlands,"countless streams, rivers, lakes and other waterways are in danger of pollution and destruction. Two recent Supreme Court rulings, along with policy directives from the Environmental Protection Agency and the U.S. Army Corps of Engineers, have raised questions about whether the Clean Water Act's protections extend to a host of "non-navigable" and

"isolated" waterways. This loophole is particularly troubling in relation to the problem of nutrient pollution in the Mississippi River Basin.

Small waterways such as wetlands and streams have important roles both as conduits and as sinks for this nutrient pollution. Evidence shows that while many of the nutrient pollution that reaches the Gulf comes from runoff that enters headwater streams, small streams and wetlands can also intercept and remove nutrients from the water before they get to major river systems and the Gulf. They also provide drinking water, prevent floods, provide habitat for fish and wildlife, and filter out other pollutants.

+ Full Report (PDF; 2.4 MB)

Stagnant Waters: 2008 Clean Water Act Report
Source: U.S. House of Representatives, Committee on Transportation and Infrastructure

On the eve of the 36th anniversary of the enactment of the Clean Water Act (October 18), Rep. James L. Oberstar, Chairman of the Committee on Transportation and Infrastructure, released the attached report on the status of the nation's waters under the Bush Administration.

This landmark environmental statute, which established a national commitment to restore and maintain the chemical, physical, and biological integrity of the nation's waters, has been undermined and weakened by the Bush administration, and many Federal clean water protections have been eliminated in the past eight years.

+ Full Report (PDF; 197 KB)

Climate Change Strategy to Help Manage Water Resources

Climate Change Strategy to Help Manage Water Resources
Source: U.S. Environmental Protection Agency

To assist in responding to potential effects of climate change, a new strategy focuses on 40 specific actions for the national water program to take to respond to climate change. EPA's "National Water Program Strategy: Response to Climate Change" describes steps for managers to adapt their clean water, drinking water, and ocean protection programs.
…
EPA water programs are already taking action related to climate change including the WaterSense water efficiency program, green infrastructure for wet weather management, Climate Ready Estuaries, and the proposed national rule for the injection of carbon dioxide underground.

The water strategy identifies specific response actions in five areas:

- Mitigation of greenhouse gases
- Adaptation to climate change
- Research related to water and climate change
- Education on climate change
- Water program management of climate change

+ National Water Program Strategy: Response to Climate Change

U.S. EPA Report Targets Local, National Environmental Trends Highlights from 2008 Report on the Environment

U.S. EPA Report Targets Local, National Environmental Trends Highlights from 2008 Report on the Environment
Source: U.S. Environmental Protection Agency

he U.S. Environmental Protection Agency has released its 2008 Report on the Environment Highlights, a valuable resource citizens can use to easily understand broad trends in the condition of the air, water, and land and related changes in human health and the environment in the United States.

In the Pacific Southwest, state-wide measures have in many cases shown improvement, but these changes are not uniform across the region. Much work remains to be done to ensure that vulnerable communities in the outer Pacific Islands, U.S./Mexico Border Region, tribal communities, and environmental justice areas make progress in improving public health and environmental conditions.

Locally, the EPA continues to work with states, tribes, and local partners in the Pacific Southwest to address environmental issues at the community level. An example of this effort is the collapse of open-water fish species in the Sacramento-San Joaquin Delta coupled with critically dry conditions in California affecting water supplies throughout the state. This focus on the biology of at-risk fish populations has generated high-quality, useful science that synthesizes the impacts of diverse stressors of ecosystems and suggests more effective ways to use permits to protect ecological values.

+ Report on the Environment 2008

Hearing — Quality and Environmental Impacts of Bottled Water

Quality and Environmental Impacts of Bottled Water (10 September 2008)
Source: U.S. Senate Committee on Environment & Public Works, Subcommittee on Transportation Safety, Infrastructure Security, and Water Quality
Archived Webcast and Testimonies (PDFs)
+ Emily Lloyd, Commissioner
New York City Department of Environmental Protection
+ Mae WuStaff Attorney, Health and Environment Program
Natural Resources Defense Council
+ Wenonah Hauter, Executive Director
Food & Water Watch
+ Dr. Stephen Edberg, Professor, Laboratory Medicine and Internal Medicine and Chemical Engineering
Yale University School of Medicine
+ Joseph Doss, President and CEO
International Bottled Water Association

Bottled Water Must be Better Tested, Labeled and Regulated

Source: Natural Resources Defense Council

The bottled water that millions of Americans drink each day is allowed to contain higher levels of a toxic chemical associated with birth defects and cancer than tap water, according to a bottled water expert from the Natural Resources Defense Council who will testify in the Senate today.

In her testimony before the subcommittee responsible for drinking water quality, NRDC attorney Mae Wu will stress that Americans have the right to know what toxic chemicals and other contaminants are in their bottled water. Currently water utilities are required to report annually to customers about the contaminants they have tested for and whether any health standards have been violated. There is no such requirement for bottled water.

+ Full Testimony (PDF; 635 KB)

Uses and limitations of observations, data, forecasts, and other projections in decision support for selected sectors and regions

Source: U.S. Climate Change Science Program and the Subcommittee on Global Change Research
From press release (NASA):

The nation faces challenges in utilizing Earth science information to manage resources and protect public health, according to a NASA-sponsored report issued Monday by the U.S. Climate Change Science Program.

The report examines the computer-based decision support tools that many government agencies use to make predictions and forecasts in areas such as agricultural productivity, air quality, renewable energy resources, water management, and the prevention of vector-borne disease.

The authors of “Uses and Limitations of Observations, Data, Forecasts, and Other Projections in Decision Support for Selected Sectors and Regions” found that while these tools have successfully incorporated Earth science information to address a number of issues, they are not yet widely used to investigate the implications of future climate change.

The report is the latest in a series of “synthesis and assessment products” by the U.S. Climate Change Science Program to address various aspects of the country’s highest priority research, observation and decision support needs. The study’s authors include experts from government, universities and non-governmental organizations.

Download in sections (PDFs) or as full report (PDF; 4.5 MB).

Comparing Price and Non-price Approaches to Urban Water Conservation

Source: Fondazione Eni Enrico Mattei (Natural Resources Management Working Papers)

Urban water conservation is typically achieved through prescriptive regulations, including the rationing of water for particular uses and requirements for the installation of particular technologies. A significant shift has occurred in pollution control regulations toward market-based policies in recent decades. We offer an analysis of the relative merits of market-based and prescriptive approaches to water conservation, where prices have rarely been used to allocate scarce supplies. The analysis emphasizes the emerging theoretical and empirical evidence that using prices to manage water demand is more cost-effective than implementing non-price conservation programs, similar to results for pollution control in earlier decades. Price-based approaches also have advantages in terms of monitoring and enforcement. In terms of predictability and equity, neither policy instrument has an inherent advantage over the other. As in any policy context, political considerations are important.

+ Full Paper (PDF; 424 KB)

CRS — Regulating Ballast Water Discharges: Current Legislative Issues

Regulating Ballast Water Discharges: Current Legislative Issues
Source: Congressional Research Service (via OpenCRS)

Today there is wide agreement on the need for stronger measures to control ballast water discharges from vessels which are a major pathway for introduction of invasive species into U.S. waters, but there are differing views on how best to do that. Current federal authority to manage ballast water, in the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (NANPCA), has been criticized as inadequate. Several states (notably Michigan, California, Minnesota, Oregon, and Washington) have passed or are considering their own ballast water laws, creating concern that separate state programs could create a patchwork of inconsistent regulatory requirements. This concern is part of the rationale for Title V of H.R. 2830, the Coast Guard Reauthorization Act of 2007, passed by the U.S. House of Representatives on April 24, 2008. It would establish a strengthened national ballast water management program administered by the Coast Guard.

This legislative approach is supported by many in the maritime industry and by a number of environmental advocacy groups, such as the National Wildlife Foundation. They argue, in essence, that a nationally uniform program providing certainty to the regulated community, requiring standards more stringent than existing Coast Guard or international rules, and specifying compliance deadlines is the best legislative approach. However, H.R. 2830 is opposed by other advocacy groups, such as the Natural Resources Defense Council (NRDC), and several of the states that have moved forward with their own ballast water programs. They contend that the legislation largely preempts state efforts and provides a slower and less effective approach to controlling ballast water discharges than that of the Clean Water Act.

Evaluating these differing views is complicated by a recent Environmental Protection Agency proposal that would control ballast water and other discharges incidental to the normal operation of vessels through the mechanism of Clean Water Act permits. At issue is whether the standard-setting, permit, and enforcement authorities of the Clean Water Act (CWA) are better tools for managing ballast water discharges than the approach in H.R. 2830. That legislation contains statutory performance standards to be implemented by the Coast Guard which would preempt state regulatory programs that are inconsistent or in conflict with the federal law. These issues are reviewed in this report.

+ Full Report (PDF; 112 KB)

Widespread Contamination Found in New Jersey Drinking Water

Widespread Contamination Found in New Jersey Drinking Water
Source: Public Employees for Environmental Responsibility

Tens of thousands of New Jersey residents are drinking polluted water, according to a new state report. Despite widespread exposure to drinking unsafe well water, state health officials ignore the risks to an unknowing public, according to Public Employees for Environmental Responsibility (PEER).

The new report from the state Private Well Testing Act Program covers the five-year period from 2002-2007 and includes samples from more than one out of eight of the estimated 400,000 private residential drinking water wells in New Jersey. The results are sobering:

- More than 12% of over 51,000 residential wells sampled failed to meet drinking water standards;
- The most common standard violations were for "gross alpha particle activity2 (2,209 wells), arsenic (1,445 wells), nitrates (1,399 wells), fecal coliform or E. coli (1,136 wells), volatile organic compounds (VOCs) (702 wells), and mercury (215 wells)"; and
- These figures do not count extensive contamination from lead, found in more than 5,200 wells, because the state Department of Environmental Protection (DEP) considered the "results to be questionable" in part due to "unrealistically high concentrations of lead…"

+ Full Report (PDF; 2.7 MB)
+ PEER analysis

Reclamation Makes Available its Proposed Implementation Plan for Water for America Initiative
Source: Bureau of Reclamation, U.S. Department of the Interior

In Fiscal Year 2009 and beyond, Reclamation will partner with the U.S. Geological Survey (USGS) to implement the Water for America Initiative. Water for America is focused on securing water resources for future generations and coping with 21st Century water challenges, including decreasing water supplies caused by potential climate change and population growth. The President's FY 2009 budget requests $31.9 million for Reclamation's Water for America activities.

Reclamation's efforts will focus on two of the Initiative's three strategies: "Plan for Our Nation's Water Future" and "Expand, Protect, and Conserve Our Nation's Water Resources." USGS will implement the third strategy to "Enhance Our Nation's Water Knowledge."

+ **Water for America**

Climate Change and Water (PDF; 5.1 MB)
Source: Intergovernmental Panel on Climate Change (IPCC)

The Technical Paper addresses the issue of freshwater. Sea-level rise is dealt with only insofar as it can lead to impacts on freshwater in coastal areas and beyond. Climate, freshwater, biophysical and socio-economic systems are interconnected in complex ways. Hence, a change in any one of these can induce a change in any other. Freshwater-related issues are critical in determining key regional and sectoral vulnerabilities. Therefore, the relationship between climate change and freshwater resources is of primary concern to human society and also has implications for all living species.

Analyses and Effects of Global Change on Human Health and Welfare and Human Systems
Source: U.S. Environmental Protection Agency
From press release:

The U.S. Environmental Protection Agency has released a report that discusses the potential impacts of climate change on human health, human welfare, and communities in the U.S. The report, entitled “Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems,” also identifies adaptation strategies to help respond to the challenges of a changing climate and identifies near- and long-term research goals for addressing data and knowledge gaps.

The report discusses the challenges and potential effects of climate change, including unusual or unexpected weather, and how some individuals and communities may be disproportionately affected by climate change, including the elderly, the poor, children, and people with chronic medical conditions. However, the U.S. has well-developed public health infrastructures and environmental programs that protect our air and water, which can help minimize the impacts.

+ Full Report (PDF; 4.3 MB)

Safer Water, Better Health
Source: World Health Organization

Safer water for better health — the first-ever report depicting country-by-country estimates of the burden of disease due to water, sanitation and hygiene highlights how much disease could be prevented through increased access to safe water and better hygiene.

This comprehensive overview provides the epidemiological evidence and economic arguments for fully integrating water, sanitation and hygiene in countries’ disease reduction strategies — a pre-requisite to achieving the Millennium Development Goals. It also provides the basis for preventive action by all relevant sectors managing critical water resources and services in support of public health efforts.

Lack of safe water, sanitation and hygiene remains one of the world’s most urgent health issues.

+ Full Report (PDF; 2.6 MB)

U.S. Government Accountability Office Reports
http://www.gao.gov/index.html

Freshwater Supply: States' View of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages
GAO-03-514, July 9, 2003
http://www.gao.gov/new.items/d03514.pdf

Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources
GAO-07-863, August 7, 2007
http://www.gao.gov/new.items/d07863.pdf

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http://www.resourceshelf.com/